

# MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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## INTRODUCTION.

The MONTHLY WEATHER REVIEW for June, 1898, is based on about 2,940 reports from stations occupied by regular and voluntary observers, classified as follows: 147 from Weather Bureau stations; numerous special river stations; 32 from post surgeons, received through the Surgeon General, United States Army; 2,583 from voluntary observers; 96 received through the Southern Pacific Railway Company; 29 from Life-Saving stations, received through the Superintendent United States Life-Saving Service; 31 from Canadian stations; 20 from Mexican stations; 7 from Jamaica, W. I. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Dr. Mariano Bárcena, Director of the Central Meteorological and Magnetic Observatory of Mexico; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kim-

ball, Superintendent of the United States Life-Saving Service; and Commander J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to generally conform to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

## FORECASTS AND WARNINGS.

By Prof. F. H. BIGELOW, in charge of Forecast Division.

But one general wind storm occurred in the interior of the country and none on the Atlantic or Pacific coasts. Detailed remarks relative to winds and forecasts are given below. Thunderstorms were quite frequent and severe and generally forecast successfully. Slight frosts occurred at extreme northern and Rocky Mountain stations. The river forecasts of approaching low water were of special value, preliminary to the light navigation of the summer season. The areas of high and low pressure were not remarkable for great barometric departures.

The following special articles by the respective members of the Forecast Division give all that need be said with regard to a month whose meteorology was rather tamer than usual.

### WIND SIGNALS.

During the month no signals were displayed on the lower Lakes, two displays for storms were made on the upper Lakes, and the information signal was displayed once on the south New England coast.

With the exception of moderate gales at Cleveland of 36 miles per hour, on the 14th and 19th, lasting from an hour to an hour and a half, and several gusts of a few minutes duration, due generally to thunderstorms, no high winds occurred on the lower Lakes.

On the 1st, information signals for brisk northeast winds were displayed on the south New England coast, and on the

4th and 5th special wind forecasts were telegraphed to stations on the middle Atlantic and south New England coast for high northeast winds diminishing in force.

Moderately high winds were reported as follows:

1st, Nantucket, 36 northeast; 3d to 4th, Nantucket, 35 northeast; 4th, Eastport, 32 northeast; 4th to 5th, Atlantic City, 38 northwest; Cape Henry, 39 northeast; Hatteras, 42 north; 25th, New York, 40 southeast.

On the 24th at 10:30 a. m., southwest storm signals were ordered for Lakes Michigan and Huron and the eastern portion of Lake Superior; a maximum wind of 50 miles an hour from the southwest occurred over the southern end of Lake Michigan and a maximum of 38 miles southwest at Marquette on the 24th.

On the 28th a southeast storm signal was displayed at Marquette, well in advance of a wind of 32 miles from the south.

The month of June presented few instances of high winds on the Atlantic and Gulf coasts, or on the Lakes. On the 1st and 2d the barometer was relatively low near Nantucket, Mass., while an area of high pressure covered the St. Lawrence Valley. Maximum velocities of 30 to 40 miles occurred on the southeast New England coast, but the winds were steady and not unfavorable to shipping. Quite a similar condition occurred on the 4th and 5th, when a high area extended from New England to the South Atlantic States, giving maximum velocities of 30 to 40 miles at exposed places on the middle and north Atlantic coasts. The barometric